REVIEW of DENTISTRY for CHILDREN

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The A.S.P.D.C. and Dentistry for Children

John C. Brauer, *President*

No other section of dentistry has advanced further and has been more popularized during the past year than the field of pedodontics. More states, districts, and cities than ever before have had as a major part of their program the theme, *dentistry for children,* or *preventive dentistry.* The dental divisions of the many state departments of health have made available "refresher courses" and post-graduate classes, all emphasizing the child patient. The great motivating power back of all these meetings has been the American Society for the Promotion of Dentistry for Children, working through its various channels, the state units and interested members.

The A.S.P.D.C. has had its greatest year in membership and general activity, and every member should be complimented, in that they have contributed much to uphold the standards of the society. The various committees are working to develop new means of approach to a greater realization of our society's objectives. State units are better organized, and many have contributed materially to the state society programs and general trend of thought within the state concerning dentistry for children.

Your program committee has developed a highly instructive program for the Milwaukee meeting with outstanding essayists in practical and interesting fields. It has been the desire of the A.S.P.D.C. to produce each year a well organized post-graduate lecture series of interest to every general practitioner. This year there will be a combined medico-dental program. Dr. Julian D. Boyd from the State University of Iowa Children's Hospital, an outstanding pediatrician, will present the luncheon address entitled, "Nutrition, Its Application in Dentistry." This latter subject is of material interest in that we, as dentists, are the guardians of the oral structures which means both the hard and soft tissues. The fact that most of us eat three times a day and are interested in metabolism warrants a fundamental knowledge of nutrition. In the afternoon, Doctor Boyd will discuss the factors of growth and development as they pertain to the normal and abnormal (sick) child.

Dr. Ralph Ireland will present, "The Uses of Silver Nitrate in Dentistry" and Dr. Bodine Higley, Head of the Department of Orthodontics, State University of Iowa, well recognized nationally for his original research work in several fields of orthodontia, will present the timely subject, "Preventive Orthodontics."

Come to the A.S.P.D.C. meeting in Milwaukee and let's get acquainted with each other's work and problems in *dentistry for children.* Feel free to come to this meeting which is yours, and bring along a friend or two who are interested in this phase of dentistry. The place—HOTEL WISCONSIN; The Time—Monday, July 17, 1939, 9 A.M. to 4 P.M.

The 1939 Meeting of the A.S.P.D.C.

Ralph L. Ireland, *Secretary*

Doctors John C. Brauer, President, and Lester A. Gerlach, Chairman of the Local Arrangements Committee, announce that arrangements for the thirteenth annual meeting of the American Society for the Promotion of Dentistry for Children are completed and everything is in readiness for one of the biggest and best meetings our Society has ever enjoyed. All meetings will be held at the Wisconsin Hotel, the official A.S.P.D.C. headquarters.

Members of the American Association of Public Health Dentists have been invited to be our guests, and will meet with us following the business session, Monday, July 17. Dr. Vern D. Irwin, President of the A.A.P.H.D., extends a cordial invitation to the members of our Society to be present at their meeting on Sunday afternoon, July 16, at the Wisconsin Hotel. A most attractive program has been arranged by this organization, and it is hoped that as many of our members as possible will avail themselves of this opportunity.

OFFICIAL A.S.P.D.C. PROGRAM, JULY 17, 1939

Colonial Room (Main Floor) - Hotel Wisconsin, Milwaukee

8:30 A.M.—Registration.

9:00 A.M.—Business Session.

11:00 A.M.—"Treatment of Deep Seated Decay in Deciduous and Young Permanent Teeth by Means of Ammoniacal Silver Nitrate." Ralph L. Ireland, D.D.S., Head of the Department of Children's Dentistry, College of Dentistry, University of Nebraska.

12:15 P.M.—Luncheon—Badger Room (below the lobby). "Nutrition, Its Application to Dentistry." Julian D. Boyd, M.D., Professor of Pediatrics, Children's Hospital, University of Iowa College of Medicine.

2:00 P.M.—"Preventive Orthodontics for the General Practitioner." Bodine Higley, D.D.S., Professor of Orthodontics, College of Dentistry, University of Iowa.

3:00 P.M.—"Growth and Development in the Child Patient." Julian D. Boyd, M.D.

Annual Meeting of the American Association of Public Health Dentists

Frank C. Cady, *Washington*

It will be of interest to members of the American Society for the Promotion of Dentistry for Children to note that their Society is for the first time holding a joint session with the American Association of Public Health Dentists. Since the objectives and purposes of both organizations are so similar, it is fitting that this liason be stimulated and promoted in the future.

The membership of the American Association of Public Health Dentists

is made up of dentists devoting whole or part time to the promotion of dental health through official National, State, and local health and educational agencies. The purpose of this organization as stated in the constitution is: "To promote public dental health, maintain the ideals of organized dentistry in all public dental health projects, and afford an opportunity for constructive discussion of the administrative problems of dental health programs."

It goes without saying that members of the American Society for the Promotion of Dentistry for Children are cordially invited to attend any or all of the open sessions of the annual meeting to be held this year in Milwaukee.

PROGRAM OF OPEN SESSIONS

Sunday, July 16, 1939

2:00 P.M.—"Teaching Dental Health." Dr. S. R. Hamrin, Department of Education, Northwestern University, Evanston, Illinois.

2:30 to 4:30 P.M.—Three formal fifteen minute papers, followed by a fifteen-minute discussion period for each paper. Three-minute limit to each discussor. 1. "Of What Value is the Smear in the Diagnosis of Vincent's Infection?" Edward C. Stafne, D.D.S., Mayo Clinic, Rochester, Minnesota. 2. "The Responsibility of the A.A.P.H.D. to the Dental Profession." R. C. Dalgleish, D.D.S., Salt Lake City, Utah. 3. "What Constitutes a Good Dental Health Program for a Given Community?" Emory W. Morris, D.D.S., W. K. Kellogg Foundation, Battle Creek, Michigan.

Monday, July 17, 1939

11:00 A.M. to 4:30 P.M.—Joint meeting with the American Society for the Promotion of Dentistry for Children.

Tuesday, July 18, 1939 (Gold Room)

9:00 A.M.—Discussion of Factual Material presented by Dr. Florence B. Hopkins, Chairman of the School Health Education Committee.

Dr. Floyd H. DeCamp, Chairman of the Adult Health Education Committee.

American Dental Association Program—Children's Dentistry and Oral Hygiene Section

Milwaukee, Wisconsin

Tuesday Afternoon, July 18, 1939

Clifford J. Waas . . . . . "Dental Needs of Pre-School Children"
John W. Knutson . . . "Survey of Children's Dental Needs in Hagerstown, Maryland"
Julian D. Boyd . . . . . "Diet in the Control of Dental Caries"
Philip Jay . . . . . "The Role of Sugar in Dental Caries Etiology"
Florence B. Hopkins . . . . . "Has It Been Proved That Sugar Is a Significant Factor in the Causation of Dental Caries?"
John E. Gurley . . . . . Summary

Wednesday Morning, July 19, 1939

Lon W. Morrey . . . . . "Dental Health Education Needs"
Charles F. Deatherage . . . . . "Are School Talks by Dentists Effective?"
Leon R. Kramer . . . . . "The Role of Visual Aids in Dental Health Education"

James F. Owen ..... "Do Dental Health Educational Programs Improve Dental Conditions?"
Francis J. Houghton ..... "The Nurse in a Dental Follow-up Program"
Lester A. Gerlach ..... "Is the School Dental Examination Advisable?"
Floyde Eddy Hogeboom ..... "The Recall System"
Margaret H. Jeffreys ..... "The Dental Hygienist as a Dental Health Educator"
Richard C. Leonard .... "Conducting Statewide Dental Health Education Programs"
Frank C. Cady ..... Summary

Wednesday Afternoon, July 19, 1939

Ralph O. Wagner ..... "Pulp Treatment of Deciduous Teeth"
Samuel D. Harris ..... "Contra Indications of Pulp Treatment in Deciduous Teeth"
Leonard Kohn ..... "Indications for the Use of Space Maintainers"
George S. Callaway ..... "Contra Indications for Space Maintainers in the Mouths of Children"
H. Shirley Dwyer ..... "Has Experience Justified Prophylactic Odontotomy?"
Milton J. Waas ..... "Has Experience Justified Prophylactic Odontotomy?"
Kenneth A. Easlick ..... Summary

Thursday Morning, July 20, 1939

Kenneth R. Gibson ... "Rapport of Public Health Officials, Physicians, and Dentists in Children's Dentistry"
Samuel E. Kohn .. "Nutrition and Endocrinology as Related to Children's Dentistry"
LeRoy M. Ennie ..... "Of What Value is the Roentgenogram in the Treatment of Children?"
Walter C. McBride ... "Psychology Applied to the Dental Treatment of Adolescents"
Walter T. McFall ..... "Restoration of Missing Teeth in Adolescents"
John Brauer ..... Summary

Southern California A. S. P. D. C. Unit Active

In May the Southern California Unit held an interesting dinner meeting at the Altadena home of Dr. Spencer R. Atkinson. More than 50 members were privileged to hear Doctor Atkinson's outline of his experiences in collecting juvenile skulls. His anatomical specimens, which comprise the only complete collection in existence, have been the foundation for new and original findings in the growth and development of the human head and dental organs.

A special dinner meeting was called the same month in honor of Dr. Thadeus T. Hyatt, pioneer in children's dentistry, originator of prophylactic odontotomy, and founder of the Oral Hygiene Committee of Greater New York, which in August will present the 500th original radio talk in its program of mouth health education for the public. Doctor Hyatt gave the 45 members present some interesting highlights of his recently completed trip around the world; some personal experiences from many years of practice; some statistical information gathered while with the Metropolitan Life Insurance Company; and some helpful suggestions for handling specific cases. He encouraged the Unit to adopt the following resolution: RESOLVED: That in the aim to attain prevention of systemic and dental disease: (a) No defect is too slight to receive definite attention, (b) The temporary or baby [foundation] teeth should receive as much care as the permanent ones in order to promote the proper development of the jaws and head and to maintain function, (c) Particular care and attention should be given to development pits and fissures, whether occurring in primary or secondary teeth, or whether decay is present or not. —H. M. KULSTAD, *Sec.-Treas.*

Modern Operative and Preventive Procedures for Children*

Drexell Boyd, *Indianapolis*

Today in the field of dentistry, the most popular papers, clinics, or writings are upon such subjects as extraction, full or partial denture construction, inlays, and crown and bridge technic. It is not difficult to understand this popularity when we consider the fee-per-hour obtained from such operations and the conditions involved.

To begin with, it can be stated that these are the branches of dentistry that pay the bills; and rightly, should be worthy of a good deal of attention. But to look further into the situation, we find these branches of dentistry to be those that attempt to make amends for the neglect of the public and the profession. Under no circumstances can this be considered the ideal type of service which our profession should be rendering.

The ideal is attained in any branch of the healing arts only when we practice prevention, and it is difficult to place much of the service performed by the above mentioned fields in the category of those rendering a preventive service. So, as a profession, we have, at least partially, failed to perform preventive dentistry and have placed too much stress upon correction and extensive reparative work that often is of questionable benefit.

There are at the present time, if we may judge by the profession's attention and interest, certain trends that are heartening and give us reason to believe that dentistry is attempting to render a more ideal service. These so-called trends are: *First*, the efforts being made to educate the public to appreciate dental attention, particularly early attention, and the many benefits obtained from such attention. *Second*, the interest that is growing within the profession towards an understanding of Children's Dentistry. *Third*, the placing of courses of preventive and children's dentistry in the curriculum of our dental schools. A study of curriculum changes in the last fifteen years makes this very evident, and likewise shows that far sighted educators have realized the shortcomings of our attack on dental problems and are attempting to correct, or at least improve, former methods.

I have mentioned the foregoing for a very definite reason: to show not only the direction of thought at the present time, but to place children's dentistry in the vital position in which it must rightly be considered. To begin with, the very back bone of children's dentistry is largely preventive dentistry and it must be borne constantly in mind that the two are inseparable. When we consider the large amount of the work done on deciduous teeth, the age or time element, the growth and development, and the main-

*Condensed from a paper read before the Twelfth Annual Meeting of the A.S.P.D.C., St. Louis, Missouri, Oct. 24, 1938.

tenance of function, we realize how much greater the magnitude of preventive measures is in children's dentistry than in adult dentistry.

Operative procedures in children's dentistry have an added problem: the acceptance of such efforts by the patient, a vital element to success in this field. Applied child psychology is of untold benefit in enabling us to understand and control the reactions of the child. We have, however, another vital factor in the practice of children's dentistry, the efficiency or time element of the operation. This is so often overlooked or neglected that many times our psychological efforts are wasted.

The first consideration in operative procedure is that of instruments. We all realize this vital essential to the success of any operation, but how seriously do we consider the matter? So often we are the victims of habits and continue to use instruments and methods of years gone by when there are easier and simpler means at hand. The greater number of children's operative procedures are done upon deciduous teeth, the six year molar being the exception. The instruments used on deciduous teeth must by necessity be smaller than those used on permanent teeth.

We use the No. 15, 9, 6 and 10, 7, 6 chisels, No. 10, 6, 12 R and L enamel hatchets, and No. 8, 6, 12 R and L spoon excavators for the hand instrumentation of cavities, trying always to use these instruments only once or twice as the case necessitates, and by this means prevent the inefficiency that so often results from changing instruments so many times. With the dental engine, the same principle applies. The burs used are ones large enough to do the desired cutting in one or two sweeps of the bur. This reduces the length of time used in the operation of the engine and the changing of burs so often. Large burs produce very little more pain than small burs when used on deciduous teeth and children do much better when the engine time is reduced to a minimum, whether pain is present or not. Also, their cooperation is much greater if it can be explained that one or two moments is all that is necessary. Inasmuch as most of the restorations placed in our clinic are of plastics, we follow the principles of Black's Cavity preparation with an application of the widening of the occlusal locks as popularized by Dr. Sweet of California.

In dealing with the hard structures of the tooth, we are dealing either directly or indirectly with the pulp, and in children, it is a difficult problem. We have irritation from two main sources: chemical and thermal. If we can prevent or correct these, we will reduce the number of acute or chronic pulpal involvements to a minimum. Any tooth in which there is a break in the enamel is subject to these irritations and the care of these teeth is of particular significance, because of the rapidity with which the dentin is destroyed by caries and the small amount of tooth structure that has to be transgressed in the deciduous tooth before the pulp is infected. The first control after the inception of the lesion is by a simple stopping of the cavity with a suitable restorative. The second is a placing of cement base when amounts of dentin have been involved beyond the normal contour of the

preparation. Without doubt this is one of the most neglected phases of operative procedures in children's work. The third is used in cases where large amounts of dentin has been involved and we have both thermal and chemical irritation to combat. The chemical irritation is caused by the cement base. In all of these cases, the placing of a palliative or sedative dressing between the cement base and tooth structure is necessary. Sterilization and coagulation of the protoplasmic content of the dentin is, of course, routine in all cases.

The placing of all questionable teeth with history of pulpitis on a rest or observation period is advisable before the placing of the finished filling. The subsequent death of pulps with the loss of time and money to both the operator and patient from such conditions has long been a sore spot in Pedodontia. Any effort to correct this condition and prevent its occurrence is a favorable procedure for those practicing children's dentistry.

The consideration of pulp exposures is one of the greatest problems of children's dentistry. Capping is permissible if certain factors are taken into consideration, but I wonder how successful this procedure is? I have been both disappointed and dissatisfied with this procedure and have had best results with pulp amputation. It has eliminated largely the occurrence of apical abscesses which can be cared for only by difficult and prolonged treatment or extraction. Also, the tooth is kept in a serviceable state while it is performing its vital function of attaining and maintaining normal alignment or occlusion. Therefore, this procedure performs a service that is almost indispensable if we are to do children's dentistry from the standpoints already mentioned.

The arguments as to what materials should be used for cavity lining, sedative dressings, pulp capping, and sealing of pulp amputations seem rather unnecessary, as long as we consider certain fundamental principles. There are a large number of agents that produce the same results, and it is merely a matter of personal choice, ability, and experience of manipulation that makes the decision for the individual operator. I have found zinc oxide and eugenol used with phenol and silver nitrate answer most needs. Also, with these few materials, there is an element of speed and efficiency that cannot be obtained from the manipulation of a larger number.

A means for the control of dental caries which is proving most popular at the present from the preventive operative standpoint is that of immunization of the tooth structure (the permanency of which is questionable) and the removal of conditions favorable to the production of carious lesions. The immunization is obtained most commonly by the preparation of surfaces and the precipitation of ammoniacal silver nitrate. This may involve the disking of contacts and unsupported enamel to give as self cleansing surfaces as possible and the removal of affected dentin that might prevent the precipitation in the desired locality. This procedure is of untold value in inoperable cases and for the control of etched and questionable areas.

Particularly is this true in cases where the teeth are to be retained for only a short length of time and in mouths that give evidence of an arrestment of caries.

We should, however, realize the limitations of this method and not let either ourselves or our patients be fooled into the belief that it is a positive procedure. In mouths extremely susceptible, its use is questionable and offers only a temporary means of control.

The second method of operative control is the removal of conditions favorable to the production of carious lesions and the checking of destructive action of these lesions when they are almost microscopic in size. The first part of this consideration has been very nicely nomenclated by Dr. Hyatt in the term of prophylactic odontotomy and the second part is covered by the simple pit and fissure restoration. We know from experience that immunization by amalgam and cement washes have proved inadequate in the control of these areas and that the placing of durable restorations is the most successful solution to this problem.

If we are to place restorations of amalgam in pit and fissure preparations, they must be wide enough for the introduction of the amalgam condenser, as it is largely through the condensing of this material that we obtain a restoration of the desired durability. Amalgam then should never be placed in inadequately opened preparations in which condensing instruments cannot enter. Amalgam is the filling material which meets more of the desirable qualities of a restorative for children, and as a result is the one most often used. There are, however, indications now and then in older children for the placing of gold foil restorations, providing of course that they are small. Never should they be placed where trauma from condensing may involve the undeveloped root ends.

There is another type of restoration from a preventive aspect that is worthy of consideration, the spot or simple proximal on posteriors. Where conditions are favorable, it is a very efficient and valuable restoration, particularly in the deciduous teeth. It has the great advantage of the preservation of sound tooth structure over the extensive cutting necessitated by compound preparations. Access afforded by approximating two surface cavities or missing teeth, supported marginal ridges, small decalcified areas, cavities with small amounts of lateral caries, are all conditions that warrant its use and make it a practical restoration. The time element or general operative efficiency, together with the child's reaction to instrumentation, are factors not to be overlooked among its merits.

REMEMBER! 1939 MEETING

Milwaukee, Wisconsin - July 17th

Pedodontic Preventive Dentistry*

R. M. Erwin, *Portland, Oregon*

The endurance and merit of any profession are dependent upon its ability to better itself progressively. If at any time improvement of its field of understanding ceases, its subsequent degeneration in ability to serve man adequately would be an assurity. Furthermore, as individual dentists, the same fate awaits those of us who become mentally stagnant and do not keep abreast of the current improvements that our profession offers.

In the past decade, the profession of dentistry has given many commendable and valuable services and much additional knowledge to the alert individual dentist and in turn to the public at large that comes to his office. Embarrassing as it may be, we must many times admit that some of the older principles to which we have adhered are contradictory to the newer and more logical ideals recognized as correct today. It naturally follows that we must accept the new that is proved logical and abandon the obsolete that has been disproved. It is truly stated that, "A wise man will change his mind; a fool never." Consequently, having corrected the false impressions in our own fields of understanding, we are obligated to our patients to re-educate them and rectify the erroneous ideas that have in the past been presented to them.

The above statements are particularly true in the consideration of general dentistry for children, and yet to an unfortunate and disappointing extent we still find too large a percentage of general practitioners still considering lightly the need of thoroughly and carefully attending to the dental needs of children, and especially is this true when the deciduous or foundation teeth are involved. Our profession of dentistry, as has the medical profession, arrived at the definite realization that the most valuable service within our ability is that of prevention. Further, that with but the single exception of prenatal dietetics, there is no earlier or more logical opportunity to render such services as in the instance of thoroughly rendered general dentistry for children.

Because of these conclusively recognized and proved facts, the directing agencies and officers of the American Dental Association have for the past two years adopted the slogan of "Dental Health For The American Youth." In accordance with this objective, the various phases of preventive dentistry were emphasized at the 1938 A.D.A. meeting, and on every hand authoritative men in our profession delivered material illustrating the urgency of such services. Others whose pedodontic abilities are nationally recognized presented essays and clinics on technic and procedure on how best and most safely to restore the teeth of children, that the children of today will as

*Condensed from a paper read before the North Pacific Dental College Alumni Association Convention, February 23-25, 1939.

adults of tomorrow not be afflicted with many of the dental maladies common to adults of today.

Dr. Camalier, our past president, made this statement before a general assembly: ". . . a survey in 1933-34 disclosed that approximately 90 percent of the American school children suffer from dental decay . . ." Later on in his address he declared the policies of the profession and its attitude toward this problem, relative to the recognition of the importance of dentistry for children: ". . . in regard to preventive dentistry the A.D.A. believes the logical approach is through adequate prenatal and postnatal nutrition and medical care. This must be brought about largely through education in professional circles and also in the laity. It has been demonstrated that if adequate and *first class dental services* are provided the pre-school child, plus correction of small defects in early school ages, the occurrence of complicated dental diseases will be materially reduced."

It is obvious that this dire need of dental services to the youth of our nation has, and is continuing to attract a good deal of alarm among the thinking leaders of this profession, for Dr. Frank C. Cady, Dental Consultant of the United States Public Health Service, substantiated the remarks of Dr. Camalier as follows: ". . . 90 percent of the school children under the age of 16 years suffer with dental caries and dental defects in the teeth of children are accumulating six times as fast as they are being treated [A rather alarming situation, the answer to which in part can be found in the daily routine of our offices]. This group represents 20 percent of the population at a period in life when future dental defects can be prevented and effectively controlled. The dentist cannot be expected to beat the bushes and round up the children, but he can and is expected to render competent and thorough dental services for children when they are referred to him." The question naturally arises to what ratio of incidence is caries existent in this 90 percent? Dr. Charles F. Deatherage, Director of the Illinois Public Health Service, in his essay stated: ". . . a dental health survey of 55,044 school children during the last four years showed that the average child had three decayed teeth."

Considering these facts, it is obvious that regular examinations of the teeth of children are essential and that those teeth found to be carious with the initial lesion, as well as well-defined caries, should receive immediate well-placed dental restoration of the affected structures. In this respect, our ethical obligations bind us to advise the parents of the immediate necessity of such services, and we should so qualify ourselves that we can intelligently proceed and produce lasting and serviceable restorations for these children: not just "plugs" but restorations of a quality that you render daily to your adult patients.

In dealing with this problem of negligence of dental services for children, it is only logical and just that we analyze the reasons why dental practitioners so generally shun opportunities to render pedodontic services and in other instances proceed in only a half-hearted, haphazard manner.

If I were to ask at this time for expression of reasons why possibly some of the members of this audience avoid or otherwise discourage dental services for the children brought to them, surely one of the most commonly expressed opinions would be, "I can't get a sufficient fee to bother with the junior patient for the time required." In response to this obstacle may I expound the questions "Do you encounter a similar obstacle for posterior bridge service, Do you find that it requires the expenditure of an appreciable length of time to explain to the adult patient the complicating factors that will develop and the ultimate loss of teeth that will ensue if quality bridge services are not provided?" The honest reply would be an acknowledgment of such time being a necessary part of your dental health salesmanship in your office.

The same factors are true in making available to oneself adequate fees for children's general dentistry. Surely no one group is more aware of this obstacle, and the necessity for command of immediate data in reasoning with the skeptical parent, than the pedodontists of this country. However, the difference lies in the fact that the child specialist is informed and believes in the value of dental services for the child and therefore is equipped to reason intelligently with the parents and explain to their satisfaction why dental services for children are as high as adult services and even higher in many instances. Furthermore, he does not attempt to sell mechanical dental services but rather presents it to them in the recognized truth—namely, as a real protective and preventive service of influence throughout the life of the child, even into adulthood. It is that type of service that the parent and child will receive for their expended funds.

One of the most frequently voiced expressions of resistance on the part of many parents is, ". . . but they didn't use to fill 'baby' teeth." That is, in general, the truth, and the resulting conditions that predispose to periodontoclasia were blissfully ignored and allowed to develop, with the result that today, with the single exception of dental caries, there is probably no dental disease more common to our adults than that of periodontoclasia. To reduce the incidence of this disease in our adults of tomorrow is one of the objectives of present day pedodontia.

Many practitioners have recently heard of the importance of the foundation teeth as space retention structures, and stubbornly admonish the parent that an abscessed tooth of a young child should be retained to save this space. I personally have seen many such cases presented with the entire crown completely absent due to carious involvement, the remnant of the pulp chamber a mass of putrescent material and being retained upon the recent advice of a dentist. Further, in the same mouth there would be other foundation teeth in varying degrees of carious involvement, most of which could be satisfactorily filled for the duration of the expected use of the teeth until their normal exfoliation. What logic or mode of reasoning is such an operator using? He admits the importance of the deciduous teeth by desiring to retain the hopelessly involved tooth and yet apparently makes

no effort to persuade the parent to have the other teeth restored to a healthy state. If an adult patient were present in his office with the same condition existing, he would cite to them many reasons for the immediate elimination of the foci of infection, emphasizing the damage it was contributing to their physical welfare: and yet he overlooks the same principles and considers only the local condition when confronted with a child.

If I were to ask for the next phase most objectionable to dealing with children which, to many practitioners, justifies in their minds negligence of this phase of dental practice, there would be a very audible "Kids are too fussy and hard to handle." A large percentage of these behavior problems can be eliminated by encouraging parents to have the work done before complications set in that are justly responsible for a fretful child that has been kept awake two or three nights with aching teeth. By the same prompt attention to early established caries, the deep cavities can be prevented. Many practitioners, due to previous experiences with juvenile patients, have a latent feeling that the child is set on a hair trigger and if he can but "hurry" he can get it all over with before the child develops the expected tantrum. To facilitate speed, the engine is "kicked up" to the maximum revolutions and a terse command of "Open" is given. At the first vibration of the bur, without any explanation as to what to expect, the child is startled, feels that all he has heard about dentists is sure to be true, and so rebels to protect himself. If the operator doesn't encounter rebellion at this point, he soon does when the rapidly revolving bur heats up as it is urged into the dentin (and usually it's an old dull bur at that).

Irrespective of what stage the child rebels, the operator is sure to feel, "I knew it!" and quits as soon as possible, regardless of the quality of the preparation. Later, when the filling leaks, is displaced, or the tooth becomes devital, he feels as though his former efforts were wasted—which truly they were. The basis of this failure lies within the latent feeling the operator entertained as the child first entered the operating room—yes, even at the time the parent, as the patient in the chair, said, "Doctor, I want you to look at my child's teeth. I believe there is a cavity there." Working with children requires but little more patience than in dealing with most adults. In most instances, I have found that when the average child is given half a chance, he will be as good as the average adult and the work as secure, *but* they must be given that equal chance.

Many operators feel, "I'm just not temperamentally qualified to deal with children," and feeling somewhat embarrassed at their inability to deal successfully with the problem of child management and not desiring to admit their handicap, they pass off lightly the problem of the child's dental welfare and the urgency of rendering properly and well placed dental services. In this regard, I'm reminded of what one of my senior dental students said when asked his opinion regarding the relationship of the individual practitioner and his attitudes toward caring for children in the office. "Children's specialists are born and not made." We who know and

believe in the value of dentistry for children do not ask men who do not care to handle children to disrupt their mental tranquility by doing work for objectionable children; but we do ask that they cooperate with us by rendering known quality services for those children whose conduct is favorable and further to help us wipe out the antiquated conception "It's only a baby tooth" by telling parents the truth about these foundation teeth, as we understand it today.

Doctors Should Write!

Ralph E. Sloan, *Detroit*

Benefits both real and intangible accrue to the authors of professional and scientific writings, whether their motives are altruistic or egoistic. The intrinsic and extrinsic profits from constructive paper-portrayal of theory or fact refute the oft-voiced complaints of "too little time," "what's the use," and "periodicals are overcrowded anyway." Contributions to the expansion and perpetuation of the world's intellectual resources are, in the main, the province of doctors—those individuals who have received the most intensive education and training in their chosen field. Today, the scope of each art and science has broadened so that doctors must be particularly trained to develop a specialized part of the science, or practice an especial application of the art.

The foregoing statements are particularly applicable to the art and science of dentistry. The rapid expansion of dental science has necessitated rigid specialization in the art of applying knowledge of oral structure. It has been proved that the growing individual is an entirely different biological entity from the mature animal. While the processes of the healthy mature human are quite constant and consistent in fulfilling the maintenance requirement of the body from day to day, the growing organism must, in addition, supply the fluctuating and ever increasing demands for the laying down of new tissue. This physiologic difference between children and adults holds true for the tissues which compose the oral structures and makes the first logical division in dentistry a separation between specialization for the mature adult and for the growing child. Only in recent years has the demarcation between adult and children's dentistry become sufficiently pronounced to require specialized procedures and techniques, used specifically for either adults or children.

The American Society for the Promotion of Dentistry for Children was founded in response to a need for wider dissemination of knowledge and experience among the doctors of dentistry dealing with the teeth of children.

This has been done through organization meetings and publication of the "Review of Dentistry for Children." As the organization has grown in membership, the embryo publication has grown up until, at present, it stands ready to become a vital unit in contributing to scientific progress.

All doctors should write. The study necessary to produce a good paper enlarges the doctor's knowledge; the writing clarifies his thoughts and beliefs; publication increases his prestige (and indirectly, his income) and expands his ego, *and* a man is *never* better than he believes he is. In addition, writing is one of the best methods of creation and satisfies man's inherent desire to perpetuate himself, to leave a permanent mark on that page of time where his life was but the space between two letters.

The children's dentist should not fail to grasp the opportunities for constructive writing which lie waiting in his field and related ones. Modern techniques require not only a meticulous knowledge of dentistry but also a thorough understanding of the application of other sciences, physiology, biochemistry, and psychology, to dental problems. Boundless openings may be found in dentistry for valuable study; the coordination of the companion sciences has received comparatively little attention.

The *Review* has embarked upon a program designed to further the science and art of Children's Dentistry, a vital phase of preventive and treatment concepts in our civilization, and in so doing to aid in the accomplishment implied in the accepted slogan of the American Dental Association: "Dental Health for American Youth."

To assume a prominent place among the agencies contributing fundamental and permanent truths to the advancement of science and art, a place uncontested in the field of Children's Dentistry, the *Review* must continually progress in its rendition of valuable material to the student and practitioner of pre-adult oral education, prevention and treatment. This statement presupposes increasing cooperation from the members of the American Society for the Promotion of Dentistry for Children, not only in the actual support of the organization and its *Journal* but also in the devotion of some thought and effort to the pyramiding of the excellence and completeness of the manuscripts submitted for publication. If it is true that "There is nothing new under the sun," then it is also true that little of the knowledge man has lost is today recovered; too, only a minor part of that recovered is generally known and understood.

The advances in dentistry, *per se*, and in the multiplying number of sciences known to relate to it, are tremendous. Much of this related learning is particularly pertinent to the child and by this token should be made available to those of every profession dealing with children. Too long have the laity, members of other professions—yes, even dentists—considered children's dentistry as an independent, self-contained practice; a simple matter of yanking "baby" teeth to stop an ache or remove a squaller from the office: a distasteful but unavoidable appendage to dental practice.

Essentially, children's dentistry should be accorded greater relative im-

portance than adult practice. The trend is in that direction today. Broadened recognition is slowly forcing heavier emphasis to fall upon the dental education, hygiene, and treatment of children and at the same time the diversity of science and the widespread attention given to its findings are forcing the practice of dentistry to conform to many ramifications. Embryology, histology, and pathology, as well as heredity, medical history, nutrition, environment, and psychology, are no longer beyond the pale for the dentist although the integration and correlation of the knowledge in each subject is by no means accomplished.

It is in these phases of children's dentistry, in addition to the more familiar and customary aspects, that the *Review* is the potential harbinger of comprehensive additions to the knowledge storehouse. Doctors should write! As the inadequacy of available general knowledge in a field is shown to be large, then is the demand and obligation for doctors in that field to write increased.

The Significance of Dental Health in Children

William DeKleine, M.D., American Red Cross, *Washington, D. C.*

Dental health is more or less synonymous with physical health. The teeth are part and parcel of the physical mechanism. They derive their sustenance from the same source and are dependent upon the same metabolic processes as other structures of the body. The physiological balance or imbalance, insofar as it is responsible for health and disease, effects all structures although not necessarily in the same degree. Dental health cannot be divorced from physical health; they are concomitant. Nowhere is this relationship more evident than in dental disease. It is common knowledge that mouth infection results in joint involvement, kidney disease, gastro-intestinal disturbances, and other afflictions frequently occur. These sequelae are often of a serious nature, and it is important, therefore, that foci of infection be removed early.

Dentists have a two-fold responsibility in the oral hygiene program for schools; namely, to do the necessary corrective work and to assist in promoting health instruction. No school health program is complete without these. Because of the effect of dental disease on health, particularly in children, the corrective program is the more urgent. Personal hygiene can be of little avail in children whose mouths are reeking with infections. We must not, however, neglect the educational program in the meantime. It is a far cry from its introduction to its final application.

When Pasteur and Koch discovered bacteria as the cause of disease and

pointed the way to certain preventive and curative measures, they inaugurated a new era in medicine and public health. It was a long time, however, before a skeptical profession was willing to accept these new principles, much less learn the technique of applying them. Finally they were accepted, and today the practice of medicine and dentistry revolves to a large extent around the science of bacteriology. Pathology is always suspected of some relationship to bacterial invasion. We have become so bacteriologically-minded that when some one announces the discovery of the cause of a disease of non-bacterial origin we are inclined to question the soundness of the proof. Dr. Goldberger's discovery of the nutritional origin of pellagra is an example. It ran the gamut of professional skepticism for many years before it was finally accepted.

The pendulum has swung too far in that direction. Our educational efforts have placed too much emphasis upon the possibilities of bacterial invasion; at least public response to it would indicate that. The situation is almost tragic. People seem to think in terms of antiseptics, forgetting the more important fundamentals of nutrition and hygienic living. They use antiseptics, soaps, cosmetics and physics to a degree that is riduculous and even harmful. They abuse their gastro-intestinal tracts so that they cannot perform their normal functions adequately. They deprive themselves of the beneficial effects of sunlight and out-door air. They live in super-heated homes and workshops and engage in many other useless and harmful practices—largely because of a misconception of the principles of hygiene. I know a prominent educator who holds a paper napkin in his hand when opening a door or touching some other object, for fear of contamination.

We do not want that kind of a health regime. Antiseptics have little value in personal hygiene. What we need far more is knowledge of proper food selection, eating habits, the value of exposure to sunlight and outdoor living, adequate ventilation of home and workshop, mental hygiene and the like. These will bring far better results in health than antiseptics and physics. I realize that dentists and physicians are fully aware of all this and that they are not entirely responsible for this situation. I bring it to your attention to indicate the urgent need for re-directing public attitudes in this regard; that is our responsibility.

I do not wish to underestimate the value of sanitation and the principles of cleanliness; they occupy an important place in our personal and community life. Our water, milk and food supplies must be free from pathogenic organisms. Insects, rodents and other carriers of disease must be eliminated or placed under proper restrictions. Immunization against and treatment of certain dangerous communicable diseases are essential. The simple principles of cleanliness are important for esthetic as well as hygienic reasons. *But* the public is grossly misinterpreting them. It now becomes our duty to counteract present trends and re-interpret the principles of hygiene. Comprehensive knowledge of the fundamentals of the art of living

must replace these faulty concepts. Under a regime of healthful living we need have little fear of bacteria. The body can and does eliminate most of them; otherwise we would all have been dead long since.

Illness resulting from faulty nutrition and hygiene is far more common than is generally recognized. Evidence is gradually accumulating that many diseases—the cause of which has long been a mystery—are of metabolic origin. I base that statement largely upon what is being accomplished at present in the treatment of these conditions. Successful methods of treatment with food factors indicate that they are of nutritional origin. I am not referring here to the well known deficiency diseases such as pellagra, beri-beri, scurvy, rickets, etc. The cause of these diseases is definitely known to be of nutritional origin. I refer rather to certain forms of chronic arthritis with its disabling symptoms and deformities; certain types of nerve injuries, including tic-douloureux, sciatica and other manifestations of polyneuritis; chronic gastro-intestinal malfunction; certain eye disfunctions; certain types of migraine and cardiac deficiencies; simple enlargement of the thyroid gland, and other maladies which appear to be of metabolic origin. At least they are now successfully treated with large doses of synthetic vitamins and minerals coupled with modification in the diet to insure physiological balance.

Much of this work is still in the experimental stage and therefore unpublished. I have, however, had the opportunity in recent months to observe some of this work at close range and therefore feel quite confident of the final results of these observations. We are, I believe, on the eve of a new era in preventive and curative medicine in which the application of the principles of nutrition and hygiene will play a very vital part. Even so, it will be just as difficult to convince the professional skeptics as it was when Pasteur and Koch founded bacteriology.

What does all this have to do with the practical application of oral hygiene? Perhaps not much for the present—not until we know more about the prevention of dental caries. But it is well to keep our minds attuned to these trends. Some day preventive dentistry will be more clearly defined. In the meantime dental disease prevails everywhere. It is universal. It is more common than any other malady and lies at the basis of many relayed and disabling forms of illness. How important it is that these conditions be corrected to forestall other crippling diseases! Particularly important in children! Dentists have an unqualified responsibility in dealing with this problem. No one else can do it. They must lay the groundwork for adequate dental care for all children—no age group is excepted. It may possibly be advantageous to confine your efforts for the present primarily to the younger groups; however, the fact remains that children of all ages need dental care. Mouth infection is dangerous at any age.

With federal and state funds in the offing, dentists will be remiss in their duty if they do not take council and set in motion the machinery that will ultimately provide everywhere efficient dental services in the schools.

I speak from personal experience in organizing dental programs. The results, in better dental health, have in most instances been far beyond expectation. I am convinced that cleaning up mouth infection among the majority of school children can be made an accomplished fact. The investment will return large dividends in good health. No other public health activity will achieve better results.

Your slogan, 'Dental Health for American Youth," is very timely and significant. Dentists should utilize every available agency and resource open to them. Red Cross chapters can and will help in some communities. A few are already participating in public health dental programs; others may be counted on if the local dentists, schools and health authorities can agree on a plan.

Pennsylvania Unit of A.S.P.D.C. Praised for Program

Greater Philadelphia Annual Meeting
Philadelphia County Dental Society
February 1, 2, 3, 1939
February 27, 1939

Dr. Ernest F. Ritsert
Oxford Avenue and Penn Street
Philadelphia, Pa.

Dear Doctor Ritsert:

The Greater Philadelphia Annual Meeting of 1939 is now history, and we can truthfully say it was the most successful one we have held, both in enthusiasm and attendance.

There is a growing interest each year in the Symposium arranged by the Society for the Promotion of Dentistry for Children, and your galaxy of stars certainly presented their subjects in a most interesting manner. Through the newer knowledge brought to the attention of those who attended, the number of individual patients who will be benefited, through the presentation, will be up in the hundreds.

It is with pleasure that I extend to you and your colleagues the thanks of the General Arrangements Committee and the officers and members of the Philadelphia County Dental Society for your contribution to our meeting and to dentistry's progress. To this, I add my personal appreciation and sincere thanks.

Most cordially yours,
W. J. ROBINSON
[*Chairman,* Essay Committee]

Dental Health Education in the School

Neil S. MacVicar, *Lake City, Michigan*

From the Dental Study Club, Children's Fund of Michigan

Modern health education programs have strengthened the quality of instruction and sought to secure the direct application of hygienic principles in healthful living.[1] Health programs are enrichment programs and should not be thought of in specific terms. Health is not a course. It is a condition of the organism, a quality of living.[2]

No single factor offers the opportunities for success in dental health education that the great network of our public and parochial schools does. There is no other form of contact, not even in the home, which provides such possibilities of instruction, supervision, and formation of good health habits. The schools are frequently called *the foundation of the nation.* Undoubtedly the school exerts a profound influence on the attitudes and practices of children.[3] Results obtained in many communities where well directed dental health programs have been promulgated indicate that a more nearly universal application of sound health education methods in the schools will improve dental health practices.[4]

Subject matter to be included in dental health education of the child is principally one of selection. One of the chief faults of previous attempts at health education of any sort, and dental in particular, has been the lack of interest for the child or teacher and failure to relate to the child's own experience. This argues for the development of a program in health education dealing with actualities or life situations.[5] Any program of health teaching is unsatisfactory which is based on class instruction alone. It is important to recognize that all school situations which bear on mental, physical, and moral health of the child should be utilized.[5]

A program of dental health education should probably deal with the following aspects of the problem: (A) diet for sound teeth; (B) habits for cleanliness, which would include thorough drill in the use of the tooth brush; and (C) the elementary practical aspect of dental health knowledge which has a bearing on the whole smooth physical functioning and which will enable the child when adult to give intelligent attention to himself and members of his family.[6]

Three major phases of activities are represented in a modern elementary school program of health education. These are: Health Service, Health Education, and Physical Education.

The health service program is not strictly educational since it embraces those things done *for* a child rather than those done *by* the child. However, it would be a mistake to regard the health service program as being unrelated to health instruction. In general, the health service program should be used for the purpose of motivating the health instruction. For example,

the child who has just learned that he is ten pounds underweight has an excellent reason for being interested in a study of nutrition.[7]

As part of the school routine, the child gets periodic dental examination and no questions asked. The psychologic value of making dental attention part of the regular school program can hardly be over-estimated.[8] Examination should be made early in the school year. The evidence of the examination may call for commendation of past efforts or corrections and the initiation of new ones. Wisan believes that a mouth mirror and explorer examination of children's teeth during the first weeks of school should be the means to determine the dental condition upon which to base a dental health service and educational program.[4] Health instruction without health habits is vain. Children should be taught in the school how to rinse the mouth, to gargle, and to brush the teeth. Actual drills for this purpose are to be commended.[9,10] It is necessary to develop health practices on the part of the child before he is old enough to understand the scientific reasons upon which these practices rest. Practice is needed before knowledge is possible. Health training begins in the home and is supplemented in the school. The only logical procedure is to improve the health behavior of the first grade child as much as possible and to build the program of each succeeding grade upon the program that has preceded it. As the child develops, we gradually present the knowledge upon which health practices are based, adapting our instruction to his interests and capacities.[1,11]

A comprehensive program of health education in Collarangus County in New York State employed these basic policies as guides: (A) A school health program should grow out of classroom situations and should come from the teachers and pupils themselves. (B) Activities and materials of instruction should be based on children's interests and needs and should be positive in their application. (C) Each child should be helped to practice healthful living throughout the day. (D) Provision should be made for giving each child a basic understanding of the reasons for desirable health practices. (E) Health teaching should be integrated with the everyday life of the child and all available resources should be drawn upon to accomplish this unification. (F) The program should identify itself with home and community programs of health and education. (G) Only scientifically sound facts of hygiene and health practices should be taught.[12]

In the lower grades, there is little if any formal health teaching. Ideally, the children should seldom be conscious of health as such, but nevertheless should experience it to their fullest capacity through the opportunities provided them.[12] Possible approaches in the lower grades are: (A) A study of animals' teeth in nature study. (B) Interest in health examination records. (C) Child with excellent teeth noted.[12]

For the upper grades, a sound program of health education should be based on the expanding interests and needs at this older age level. As the child develops in maturity, his desire for information increases and his power to reason and judge becomes more highly developed. He is interested

in activities that bring results. A definite time is usually set aside for the consideration of health problems, oftentimes utilizing some of the science period. Sometimes the time is used for solving a particular health problem, and again it may be used for laying plans for future research and experimentation.[12] Possible approaches in the upper grades: (A) Analysis of health examination records. (B) Natural interest in personal appearance. (C) Study of food.[12]

The teacher helps to see that the ultimate reward of health practices will be found in growth, in improved physical accomplishment, and in other concrete evidence of health. The reasons for health habits ought not to be the winning of a specific reward at the end of a given period. If that is what is in the child's mind, then, when the reward is achieved, there is no longer any reason for continuing the habit. Growth and accomplishment constitute a sufficient and much better stimulus.[1]

One of the phases of education wherein many localities fail is in the training of teachers in principles of mouth hygiene. Teachers have been trained in the importance of clean handkerchiefs and clean fingernails for years and general hygiene has been made so important to them that most teachers include it in their routine classroom teaching. There are not so many teachers interested in teeth that they spend time trying to influence the children in their classes to keep the mouth clean. It is not the fault of the teaching profession that we have neglected one of our most important groups in our mouth hygiene program.[13]

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Mat Gold Fillings for the Child Patient

Samuel Stulberg, *Highland Park, Michigan*

If one could insert a good gold filling about as rapidly as he could pack a good amalgam filling, would he do it? Mat gold is the material which is suggested to replace silver amalgam for certain cavities. It answers in one way the problem of permanent gold filling for the child's young permanent teeth.

The questions may arise, "Where is it indicated?" "How is it used?" Cavities where mat gold may be used are as follows: (1) The lingual pits of the upper lateral incisors (2) The buccal pits of the upper and lower first permanent molars (3) The mesial pits of the lower first bicuspids (4) The fissure of the fifth cusp of an upper first permanent molar and the lingual pit of the same tooth (5) The cervicals of any readily accessible permanent teeth.

The reason that a mat gold filling, or any gold filling for that matter, has not been suggested for the occlusal fissures of any of the teeth except the mesial pit of the lower first bicuspid is that it will have to be removed if and when caries begins on the proximal surfaces of these teeth. If a proximal cavity does develop in a short time, the operator has a difficult situation to explain to the parent.

The cavity, of course, must be dry. If the operator can maintain a dry field, a rubber dam is unnecessary. The pit on the lingual of the upper lateral incisor, or the buccal and lingual pits of the upper first permanent molar can be kept dry enough to insert this sort of a gold filling. As an aid to dryness, a one percent solution of Neo-synephrin may be packed about the gingival crevice for about a minute to serve as a vaso-constrictor. To prevent the later seepage of serum about the tooth, the gum may be painted with the following solution after the vaso-constrictor has been used: alcohol, 59.4 gms.; formaldehyde, 0.3 gms.; menthol, 0.3 gms. It is difficult to keep the lower teeth dry except by the use of a rubber dam, and it is extremely simple to expose one tooth and hold the dam in place with the easily placed Young's frame. The placing of a rubber dam in this manner consumes but a few moments.

Mat gold is precipitated gold, and it feels like so much powder which has been pressed together. Because of this physical property, it is worked differently than cohesive gold foil. A rather large piece of mat gold is cut, flamed, and then tamped into the cavity. Each piece of gold is condensed with a heavy pushing motion which amounts to "walking" the mat gold out from the center to the edges of the cavity. Mat gold is easy to start in the cavity and very little time is required to fill a cavity with it. Special pluggers are made for use with mat gold. The pyramidal points on the heads of the pluggers are rounded over, in contrast to the sharp points on gold

foil pluggers. In addition to a rapidly packed cavity, a fair condensation can be secured with hand pressure only.

Other types of gold may be used of course. Crystallized fibre gold is mat gold which has been gathered into small pellets which can be used in the same manner as mat gold. A type of filling gold has been developed which combines mat gold and varnish. Each piece of this gold is dipped into the varnish before it is placed in the cavity. Tin foil, also, has been recommended by the Hyatt Study Club of New York for the fissures of young permanent molars. Two special instruments have been developed for working tin foil, a "wedge-point" plugger and a "rolling bur." Laboratory tests indicate that this material will not measure up to the requirements of a good filling. The technic, also, is a bit difficult since tin foil has a tendency to creep up on one side of a cavity as one condenses it on the opposite side of the cavity. Mat gold is much more simple to use, and, surfaced with malleted gold foil, gives a good looking, well condensed, permanent filling.

Another question may now be raised, "How much service can the operator expect from such a filling and what are some of its physical properties?" Dr. Kenneth A. Easlick has conducted numerous tests of filling materials at the University of Michigan School of Dentistry, and has set up a chart of physical properties for children's plastics and foils which is quoted in this paper. The mechanical properties in which he felt particularly interested were measured by the Brinell hardness number and the specific gravity of the final filling. Brinell hardness measures the surface hardness of the material and the specific gravity indicates its density or, in this case, its condensation. To secure an idea of the "ideal" density that might be obtained in a gold filling, 24K plate gold was cast into cylinders. The average specific gravity of 19.1 was obtained. So far as hardness is concerned, a malleted platinum gold surface showed a Brinell hardness of 84.7. Tin foil had a specific gravity of only 5.74 and was too soft to obtain a Brinell hardness reading. An all mat gold test cylinder had a specific gravity of 17.1 and a Brinell hardness of 69.7. The mat gold filling can be improved by surfacing the last two or three layers with malleted cohesive gold foil. A test cylinder that was prepared in this manner had a specific gravity of 18.7 and a Brinell hardness of 74.7.

Burnishing of the polished surface of a mat gold test cylinder by a smooth engine burnisher for one minute increased its Brinell hardness number by 10 to 11 points. Mechanical working of the surface therefore, will improve the resistance which the filling shows to abrasion. A hasty review of the various tests demonstrates that hand condensed mat gold filling, which has been surfaced with malleted cohesive gold foil and mechanically burnished, yields a very serviceable filling according to laboratory tests. Such a conclusion is being substantiated by the clinical observation of fillings in patients' teeth. The elimination of a malleting technic presents a suggestion for the management of young permanent teeth with pure gold.